

Curriculum Vitae

Prof. Dr. Ioannis D. Platis

October 14, 2024

Date of birth: 22 February 1966

Place of birth: Athens

Family status: Married, two children

Languages: English (fluent), French (moderate).

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Current position

2024 September- : Full Professor,
Department of Mathematics, University of Patras, Greece.

Research interests

Geometric Analysis:

1. Complex analysis (Theory of quasiconformal mappings of the plane).
2. Hyperbolic Geometry (Teichmüller space theory, deformation theory of Kleinian groups).
3. Complex hyperbolic Geometry (Complex hyperbolic Teichmüller space theory).
4. Sub-Riemannian Geometry (Theory of quasiconformal mappings of the Hei-senberg group).
5. CR Geometry.

Education

1. 2000, February 3: PhD in Mathematics, University of Crete.

Thesis: On the geometry of the space of quasi-Fuchsian deformations of a hyperbolic surface.

Supervisor: Dr. Christos Kourouniotis.

Area of emphasis: Deformation theory of Kleinian groups, quasi-Fuchsian and Teichmüller spaces.

2. 1994, June 30: MSc in Pure Mathematics, University of Crete.

Thesis: On the Godbillon–Vey invariant.

Supervisor: Prof. Constantine Athanassopoulos.

Area of emphasis: Differential geometry, foliation theory.

3. 1988, July 20: BSc in Mathematics, Aristotelean University of Thessaloniki.

Scholarships and fellowships

- March 2006–February 2007. Marie Curie European reintegration grant fellow. Contract No. MERG-CT-2005-028371.

Title: Applications of analysis in complex hyperbolic geometry.

Scientist in charge: Prof. N. Mandouvalos. Aristotelean University of Thessaloniki.

- January 2004–December 2005. Marie Curie Intra-European fellow. Contract No. MEIF-CT-2003-500074.

Title: Spaces of structures of complex hyperbolic discrete groups.

Scientist in charge: Prof. J.R. Parker. University of Durham, United Kingdom.

- 1999–2001: Scholar of Secretariat General of Research and Technology, Contract No: K.A. 1261.

Title: Geometry of invariant sets in smooth dynamical systems.

Scientist in charge: Prof. S. Papadopoulou.

- 1998–1999: Stylianos Pichorides scholar, University of Crete.

Teaching experience

- Winter semester 2024-2025: Professor, Department of Mathematics, University of Patras.
Courses taught (number of students):
History of Mathematics (250)
Geometry (100)
- Spring semester 2018-2019 to Spring semester 2023-2024: Professor, Department of Mathematics and Applied Mathematics, University of Crete.
Courses taught (number of students):
Differentiable manifolds, (graduate) (online course, 15)
Geometry, (150)
Calculus of Variations, (150)
Multivariable Calculus, (50)
Differential Geometry, (200)
Topology, (50)
Calculus II, (350)
Calculus III, (300)
Geometry, (150)
Mathematics I (Chemistry), (200)
Riemannian Geometry, Graduate, (5)
Geometry, (150)
Euclidean Geometry and its didactics (300)
Differentiable Manifolds (Graduate) (4)
- Spring semester 2013-2014 to spring semester 2017-2018: Associate Professor, Department of Mathematics and Applied Mathematics, University of Crete.
Courses taught (number of students):
Topology (250)
Riemann Surfaces (reading course, graduate) (1),
Differential Geometry (190),
Calculus I (service course for the Department of Material Sciences) (250),
Several Complex Variables (reading course, graduate) (2),
History of Mathematics (300),
Multivariable Calculus (140),
Calculus I (service course for the Department of Chemistry) (220),
Introduction to Differentiable Manifolds (graduate) (6),
Lie groups (reading course, graduate) (1),
Calculus II (service course for the Department of Material Sciences) (250),
Complex analysis (graduate) (12),
Calculus II (service course for the Department of Material Sciences) (260)
- Spring semester 2007-2008 to winter semester 2013-14: Assistant Professor, Department of Mathematics, University of Crete.
Courses taught (number of students):
Differential Geometry (200),

Elements of mathematics (300),
 Differentiable Manifolds (graduate) (10),
 Calculus III (250),
 Riemannian Geometry (graduate) (10),
 Differentiable Manifolds (graduate) (8),
 Differential Geometry (250),
 Hyperbolic Geometry (25),
 Calculus II (300),
 Euclidean Geometry (250),
 Topics in Complex Analysis and Geometry (50).
 Also taught two service courses in Mathematics in the Department Of Material Sciences.
 (150)

- Winter semester 2007-2008: Visiting Lecturer, Department of Mathematics and Statistics, University of Cyprus.
 Courses taught (number of students):
 Calculus (80),
 Linear Algebra I (50).
- 2003-2004: Tutor, Department of Mathematical Sciences, Durham University.
 Courses taught (number of students):
 Complex Analysis (20),
 Linear Algebra (25).
- 2002-2003: Visiting Assistant Professor, Department of Mathematics, University of Crete.
 Courses taught (number of students):
 Topics in Complex Analysis (20).
 Calculus of Several Variables (150),
 Multivariable calculus (60).
 Calculus I (service course for the Department of Material Sciences) (twice) (80).
- 2001-2002: Visiting Lecturer, Department of Mathematics, University of Crete.
 Courses taught (number of students):
 Linear Algebra (150),
 Calculus II (250).
- 2000-2003 : Visiting Professor, Technical University of Crete, Crete.
 Courses taught:
 Linear Algebra, Calculus I, II.
 The number of students varied from 150 to 250.
 Fourier Series and Fourier Transformations (100).

Theses supervision

Current

1. *Hyperbolic spaces*. (B.Sc. Thesis) Ioanna Micheloudaki, Department of Mathematics and Applied Mathematics, University of Crete, 2024.

Completed

1. *Thurston's Eight Geometries*. (B.Sc. Thesis) Maria Vassilaki, Department of Mathematics and Applied Mathematics, University of Crete, 2019.
2. *Curvature in sub-Riemannian Geometry*. (M.Sc. Thesis) Ioannis Fournziz, Department of Mathematics and Applied Mathematics, University of Crete, 2019.
3. 2016-: Co-advisor (together with J.R. Parker) of R. Davila-Figueroa, Ph.D. candidate; Department of Mathematical Sciences, Durham University, UK.
4. *The Roto-Affine group and a lifting theorem for quasiconformal mappings*. (M.Sc. Thesis) Georgios Moulantzikos, Department of Mathematics and Applied Mathematics, University of Crete, 2017.
5. *Straight ruled surfaces in the roto-translational group*. (M.Sc. Thesis) Constantinos Pappas, Department of Mathematics and Applied Mathematics, University of Crete, 2016.
6. *Applications of Complex Analysis into Financial Theory*. (B.Sc. Thesis) Michail Sgouromallis, Department of Mathematics and Applied Mathematics, University of Crete, 2016.
7. *Uncertainty principle for the affine group*. (B.Sc. Thesis) Vassiliki Filippa, Department of Mathematics and Applied Mathematics, University of Crete, 2015.
8. *The Antikythera Mechanism*. (M.Sc. Thesis) Marinos Anastasakis, Department of Mathematics, University of Crete, 2013.
9. *Apollonian Circles and Hyperbolic Geometry*. (B. Sc. Thesis) Konstantinos Kokkinoplitis, Department of Mathematics, University of Crete, 2013.
10. *The Ptolemaean inequality from antiquity till modern times*. (M.Sc. Thesis) Giannina Rasouli, Department of Mathematics, University of Crete, 2012.
11. *Moduli of rings in the Heisenberg group*. (M.Sc. Thesis) Serafeim Giannopoulos, Department of Mathematics, University of Crete, 2012.
12. *Quasiconformal mappings of the plane*. (B.Sc. Thesis) Irene Attitis, Department of Mathematics, University of Crete, 2003.
13. *The Riemann mapping theorem*. (BSc. Thesis) Constantinos Rambalacos, Department of Mathematics, University of Crete, 2002.

Talks and Conferences (selected)

1. (Invited one month visit) Hunan University, Changsha, PRC, April 2019.
2. (Invited one month visit) Hunan University, Changsha, PRC, April 2018.
3. (Invited talk) University of Heidelberg, Germany, June 2017.
4. (Plenary speaker) Workshop on Kleinian Groups, UNAM, Cuernavaca, Mexico, August 2016.

5. (Plenary speaker) Workshop on Complex Hyperbolic Geometry, Changsha University, PRC, July 2016.
6. (Invited talk) Università degli Studi della Basilicata, Potenza, February 2016.
7. (Participant) Finsler geometry and applications to low-dimensional geometry and topology and moduli spaces. Università di Cagliari, September 2015.
8. (Talk) MANET Workshop on sub-Riemannian Analysis, PDE and applications. Bern, 2015.
9. (Invited talk) ETH, Zurich, November 2013.
10. (Invited talk) University of Maynooth, Maynooth, January 2013.
11. (Participant) Geometry and analysis of surface group representations, Institut Poincaré, Paris, February 2012.
12. (Invited talk) Martin's Days, Conference in Honour of H.M. Reimann, Bern, November 2011.
13. (Talk) 9th Panhellenic congress of geometry, Anogeia, July 2009.
14. (Invited talk) University of Bern, January 2008.
15. Conference for the 65th birthday of W.J. Harvey, Anogia Crete, July 2007.
16. (Invited talk) Université Paris VI (Pierre et Marie Curie), February 2007.
17. (Invited talk) University of Cyprus, December 2006.
18. (Invited talk) One day function theory meeting, London, September 2005.
19. (Invited talk) University of Warwick, February 2005.
20. (Invited talk) University of Bern, January 2005.
21. (Invited talk) King's College, London, November 2004.
22. (Invited talk) University of Newcastle, October 2004.
23. (Invited talk) 10th Panhellenic congress of analysis, Athens, June 2004.
24. (Invited talk) King's College, London, May 2004.
25. (Talk) 6th Panhellenic congress of geometry, Limassol, 2003.
26. (Invited talk) Université d'Orleans, April 2000.
27. (Invited talk) Université Louis Pasteur, Strasbourg, October 1999.
28. (Invited talk) Université Paris-Sud XI, Orsay, October 1999.
29. (Participant) Workshop on Riemann surfaces, Hebrew University, Jerusalem, May 1999.

Publications

1. *PCR Kahler equivalent structures in the Siegel domain.*
arXiv:2304.08079v1 [math.DG] 2023
Joint work with J. Kim and L. Sun.
2. *Bisectors in the Heisenberg group I.*
arXiv: 2201.06073 [math.DG] 2022.
Bull. Korean Math. Soc. 2023; 60(1): 225-235
Joint work with Y. Jiang and G.Gou
3. *Equilateral dimension of the Heisenberg group.*
arXiv:2111.14476v1 [math.MG] 2021.
Geometriae Dedicata, **217**; 642023, online version.
DOI: <https://doi.org/10.1007/s10711-023-00795-x>
Joint work with J. Kim.
4. *Half plane geometries.*
arXiv:2111.07569v2 [math.DG] 2021.
Joint work with L.Sun.
5. *On Nirenberg's non-embeddable CR structure.*
Complex Variables and Elliptic Equations **68**(3):1-18
DOI:10.1080/17476933.2021.1986034
Joint work with E. Barletta, S. Dragomir and F. Esposito.
6. *Quasiconformal mappings in the hyperbolic Heisenberg group and a Lifting Theorem.*
arXiv:1909.11955[math.DG] 2019.
Lecture Notes of Seminario Interdisciplinare di Matematica, vol. 15, 2020.
7. *A Kähler structure for the $PU(2,1)$ configuration space of four points in S^3 .*
arXiv:1906.06658[math.DG] 2019.
Geometriae Dedicata, 2021.
Joint work with L.Sun.
8. *The modulus of the Korányi ellipsoidal ring.*
arXiv:1807.11653 [math.DG] 2018.
Proc. Amer. Math. Soc. 2019. DOI: <https://doi.org/10.1090/proc/14434>
9. *The modulus of the Korányi ellipsoidal ring.*
Proceedings of the AMS, 2019.
DOI: <https://doi.org/10.1090/proc/14434>
arXiv:1807.11653 [math.DG]
Joint work with Gaoshun Gou.

10. *The configuration space of equidistant triples in the Heisenberg group.*
arXiv:1703.09420 [math.DG] 2017.
11. The $\mathrm{PSL}(2, \mathbb{R})^2$ -configuration space of four points in the torus $S^1 \times S^1$.
arXiv:1703.05124 [math.DG] 2017.
12. *The Ptolemaean Inequality in the closure of complex hyperbolic plane.*
Joint work with N. Sönmez.
arXiv:1604.00473 [math.MG] 2016.
Turkish Journal of Mathematics, **41**, (5), 1108–1120, 2017.
13. *Quasiconformal mappings on the Heisenberg group: An overview.*
Handbook of Teichmüller Theory Vol. VI, 2016, pp: 375–396. (ed. Athanase Papadopoulos).
14. *Modulus of revolution rings in the Heisenberg group.*
Proc. Amer. Math. Soc. (**144**) 3975-3990, 2016.
15. *Uniqueness of minimisers for a Grötzsch-Belinskii type inequality in the Heisenberg group.*
Joint work with Z.M. Balogh and K. Fässler.
Conformal Geometry and Dynamics, (**19**) 122-145, 2015.
16. *Möbius rigidity of invariant metrics in boundaries of symmetric spaces of rank-1.*
Joint work with V. Schroeder.
arXiv:1406.6770 [math.MG] 2014. To appear in: Monatshefte Mathematik, 2016.
17. *Pseudoconformal structures and the example of Falbel’s cross-ratio variety.*
arXiv:1401.7504v1 [math.DG] 2014. Published as:
Paired CR structures and the example of Falbel’s cross-ratio variety.
Geometriae Dedicata (**181**) Issue 1, 257–292, 2016.
18. *Modulus of surface families and the radial stretch in the Heisenberg group.*
arXiv:1310.4292 v2 [math.CV] 2013. Final publication in : Mathematical Proceedings of the Cambridge Philosophical Society, pp. 1–25. doi: 10.1017/S0305004116000451.
19. *Straight ruled surfaces in the Heisenberg group.*
arXiv:1212:5834 [math.DG] 2013.
Final publication in: Journal of Geometry, (**105**) Issue 1, 119-138, 2014.
20. *Modulus method and radial stretch map in the Heisenberg group.*
Joint work with Z.M. Balogh and K. Faessler.
Annales Academiae Scientiarum Fennicae (**38**) 149-180, 2013.
21. *Cross-ratios and the Ptolemaean inequality in boundaries of symmetric spaces of rank 1.*
arXiv:1208:5171v2 [math.DG] 2012.
Final publication in: Geometriae Dedicata, (**169**), 187-208, 2014.
22. *Complex cross-ratios and the Ptolemaean inequality.*
arXiv:1207.5114v1 [math.DG]

23. *Modulus of curve families and extremality of spiral-stretch maps.*
Joint work with Z. Balogh and K. Fässler.
Journal d'Analyse Mathématique **(113)** Issue 01, 265-291, 2011.
24. *The geometry of complex hyperbolic packs.*
Mathematical Proceedings of the Cambridge Philosophical Society, **(147)** Issue 01, 205-234, 2009.
25. *Complex hyperbolic quasi-Fuchsian groups.*
Joint work with J.R. Parker.
In Geometry of Riemann surfaces. LMS Lecture Notes Series **(368)**, 2010.
26. *The $PU(2, 1)$ -configuration space of four points in S^3 and the cross-ratio variety.*
Joint work with E. Falbel.
Mathematische Annalen, **(47)** Issue 2, 71–136, 2008.
27. *Quakebend deformations in complex hyperbolic quasi-Fuchsian space.*
Geometry and Topology, **(12)** Issue 1, 431–460, 2008.
28. *Global geometrical coordinates on Falbel's cross ratio variety.*
Joint work with J.R. Parker.
Canadian Mathematical Bulletin, **(52)** Issue 2, 285-294, 2009.
29. *Complex hyperbolic Fenchel-Nielsen coordinates.*
Joint work with J.R. Parker.
Topology, **(47)** Issue 2, 71–136, 2008.
30. *Open sets of maximal dimension in complex hyperbolic quasi-Fuchsian space.*
Joint work with J.R. Parker.
Journal of Differential Geometry **(73)** (2/3), 319-350, 2006.
31. *Remarks on the hyperbolic geometry of product Teichmüller spaces,*
New Zealand Journal of Mathematics, **(35)** 85-107, 2006.
32. *Open sets of maximal dimension in complex hyperbolic quasi-Fuchsian space.*
Joint work with J.R. Parker.
(Research announcement). Proceedings of the 10th Panhellenic Conference on Mathematical Analysis, Athens (2004), 199–205.
33. *Hyperbolic geometry of product Teichmüller spaces*
(Research announcement).
Proceedings of the 9th Panhellenic Congress of Analysis, Chanea, Crete 2002.
34. *Complex symplectic geometry of Quasifuchsian space,*
Geometria Dedicata **(87)** (1/3) 17-34, 2001.
35. *The complex symplectic geometry of the space of quasi-Fuchsian structures*
(Research announcement).
Proceedings of the 3rd Panhellenic Conference of Geometry, Athens 1998.

Miscellaneous

1. Organiser of the Contemporary Algebra and Geometry in Greece II, 2-day meeting, Crete, 2016.
2. Reviewer for Mathematical Reviews (MathSciNet).
3. Referee for: Geometriae Dedicata, Asian Journal of Mathematics, Proceedings of the AMS, Mathematical Proceedings of the Cambridge Philosophical Society, Bulletin of Korean Mathematical Society.
4. Co-organiser of the 9th Panhellenic Congress of Geometry, Anogeia 2009.
5. Co-organiser of the Contemporary Algebra and Geometry in Greece I, 2-day meeting, Athens 2012.
6. Member of the Swiss Mathematical Society.
7. Translation of Andrew Pressley's book: Elementary Differential Geometry. University Publications of Crete, 2012
8. Translation of David Logan's book: A First Course on Differential Equations Liberal Books, 2013.

Referees

1. Prof. Dr. Zoltán M. Balogh,
Department of Mathematics,
University of Bern,
Siedelsrasse 6, Bern, Switzerland.

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2. Prof. Elisha Falbel,
Institut de Mathématiques de Jussieu (UMR 7586 du CNRS),
Universit/'e Paris 6 (Pierre et Marie Curie),
Case 82 4, place Jussieu, 75252 Paris Cedex 05, France

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3. Prof. John R. Parker,
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Durham University,
Durham, UK.

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